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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,152	09/24/2003	Seiji Horie	019519-406	2760

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EXAMINER	
SHOSHO, CALLIE E	
ART UNIT	**PAPER NUMBER**
1714	

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,152	HORIE ET AL.	
	Examiner	Art Unit	
	Callie E. Shosho	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 9/24/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of copending Application No. 10/668,158. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following explanation.

Copending 10/668,158 discloses oil-based ink comprising a coloring agent and a binder resin in a non-aqueous dispersion medium wherein the binder resin comprises block copolymer having repeating unit (a) corresponding to monofunctional monomer containing an aliphatic cyclic hydrocarbon group having 5 to 30 carbon atoms and repeating unit (b) corresponding to monofunctional monomer which is capable of polymerizing with monofunctional monomer (a) and homopolymer of which is soluble in the non-aqueous dispersion medium.

The difference between copending 10/668,158 and the present claims is (a) the present claims are drawn to binder which is a copolymer while copending claims are drawn to binder which is block copolymer and (b) no disclosure in the copending claims that the binder resin is insoluble in the non-aqueous dispersion medium.

With respect to difference (a), copending 10/668,158 discloses copolymer obtained from identical monofunctional monomers, however, while the present claims generically disclose that the binder comprises copolymer obtained from the monomers the copending claims disclose that the binder comprises block copolymer obtained from the monomers. However, it would have been within the skill level of one of ordinary skill in the art to recognize that the generic disclosure of block copolymer in the present claims clearly encompasses all copolymers including block copolymer.

With respect to difference (b), there is no disclosure in the copending claims that the binder is insoluble in the non-aqueous dispersion medium as presently claimed.

However, given that copending claims disclose copolymer identical to that presently claimed, i.e. obtained from same monomers, it would have been obvious to one of ordinary skill

in the art that the binder of copending 10/668,158 would intrinsically be insoluble in the non-aqueous dispersion medium.

As evidence to support this position, applicants' attention is drawn to MPEP 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a term in a patent claim." *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. (underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438,164 USPQ 619,622 (CCPA 1970).

Consistent with the above underlined portion of the MPEP citation, attention is drawn to page 10, first paragraph of copending 10/668,158 which discloses that the binder is "hardly soluble" in non-aqueous dispersion medium meaning the binder has solubility of less than 1 g/L Isopar which clearly encompasses binder having no solubility, i.e. insoluble, in the non-aqueous dispersion medium.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art (i) that the disclosure of block copolymer in 10/668,158 is a specific type of copolymer presently claimed and (ii) that given that the copolymer is obtained from monomers identical to those presently claimed, the copolymer is intrinsically insoluble in the aqueous dispersion medium as presently claimed and thus, one of ordinary skill in the art would have arrive at the present invention from the copending one.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 9/27/02. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites an improper Markush group. In the first line after formula (I), it is suggested that after "from" and before "-COO-", the phrase "the group consisting of" is inserted.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

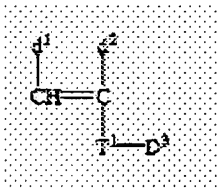
7. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi et al. (U.S. 2003/0232902).

Takahashi et al. disclose oil-based ink comprising non-aqueous dispersion medium, colorant, i.e. dye or pigment, dispersant, and hydrophobic copolymer obtained from monomers including cyclohexyl acrylate and alkyl (meth)acrylate. It is noted that cyclohexyl acrylate is identical to monomer of presently claimed formula (I) when a^1 is hydrogen, a^2 is hydrogen, X^0 is –COO-, and Q^0 is cyclohexyl group. It is further disclosed that the colorant and copolymer form colored particles possessing average particle size of 0.01-0.5 μm and maximum particle size of 1 μm or less. There is also disclosed method of making the ink which comprises step of making the colored particles (paragraphs 2, 23, 25, 27, 33, 359-360, 373, 379, 432, 437, 439, 445-446, and 468). Although there is no disclosure that a homopolymer of the alkyl (meth)acrylate would be soluble in the non-aqueous dispersion medium, given that Takahashi et al. disclose monomer identical to those utilized in the present invention, i.e. wherein the alkyl group comprises 8 or more carbon atoms such as ethylhexyl or dodecyl, it is clear that the monomer would inherently form homopolymer that would be soluble in the non-aqueous dispersion medium as presently claimed. Similarly, although there is no disclosure that the copolymer is a binder, given that Takahashi et al. disclose copolymer identical to that presently claimed, it is clear that the copolymer would inherently function as a binder.

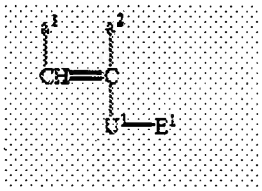
In light of the above, it is clear that Takahashi et al. anticipate the present claims.

8. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (U.S. 6,143,806).

Kato et al. disclose oil-based ink comprising non-aqueous dispersion medium, coloring agent, dispersant, and resin comprising monomer of the formula:



which is identical to presently claimed monomer (A) when T^1 is -COO-, -OCO-, $-CH_2COO-$, etc., d^1 and d^2 are each hydrogen, halogen, cyano, etc., and D^3 is cyclopentyl group and monomer of the formula:



which is identical to presently claimed monomer (B) when a^1 is hydrogen, a^2 is hydrogen or methyl group, U^1 is -COO-, and E^1 is alkyl group having 10 more carbon atoms. It is disclosed that the resin is insoluble in the non-aqueous dispersion medium. It is also disclosed that the coloring agent is contained within the resin. There is also disclosed method of making the ink which would, in light of the disclosure that the ink contains coloring agent contained in the resin, inherently include step of coating the coloring agent with resin (col.1, lines 7-13, col.2, line 54-col.3, line 5, col.3, lines 16-23, col.6, lines 8-23, col.7, lines 6-23, 47, and 49-56, col.8,

lines 27-46 and 52-55, col.12, lines 39-44, col.22, lines 7-10 and 38-46, and col.32, lines 52-64). Although there is no disclosure that a homopolymer of the monomer corresponding to presently claimed monomer (B) would be soluble in the non-aqueous dispersion medium, given that Kato et al. disclose monomer identical to those utilized in the present invention, i.e. wherein the alkyl group comprises 10 or more carbon atoms, it is clear that the monomer would inherently form homopolymer that would be soluble in the non-aqueous dispersion medium as presently claimed. Similarly, although there is no disclosure that the copolymer is a binder, given that Kato et al. disclose copolymer identical to that presently claimed, it is clear that the copolymer would inherently function as a binder.

In light of the above, it is clear that Kato et al. anticipate the present claims.

9. Claims 1-2 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Qian et al. (U.S. 2002/0128349).

Qian et al. disclose oil-based ink comprising non-aqueous dispersion medium, coloring agent, and graft copolymer binder obtained from monomer including trimethylcyclohexyl methacrylate and alkyl (meth)acrylate such as lauryl (meth)acrylate or octadecyl (meth)acrylate. It is further disclosed that the segment of the graft copolymer obtained from the above monomers is insoluble in the non-aqueous dispersion medium. It is also disclosed that the coloring agent is embedded in the graft copolymer. There is also disclosed method of making the ink which comprises step of making the colored particles (paragraphs 3, 8, 37-46, 48, 50-51, and 63). Although there is no disclosure that a homopolymer of the alkyl (meth)acrylate would be soluble in the non-aqueous dispersion medium, given that Qian et al. disclose monomer identical to those

utilized in the present invention, i.e. wherein the alkyl group comprises 8 or more carbon atoms such as lauryl or octadecyl, it is clear that the monomer would inherently form homopolymer that would be soluble in the non-aqueous dispersion medium as presently claimed.

In light of the above, it is clear that Qian et al. anticipate the present claims.

10. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11286636.

Pending formal translation and using a machine translation of the reference, it is noted that JP 11286636 discloses oil-based ink comprising non-aqueous dispersion medium, pigment, dispersant, and cyclohexyl methacrylate containing copolymer wherein the copolymer contains comonomer including alkyl (meth)acrylate such as lauryl or stearyl (meth)acrylate. It is noted that cyclohexyl acrylate is identical to monomer of presently claimed formula (I) when a^1 is hydrogen, a^2 is hydrogen, X^0 is –COO-, and Q^0 is cyclohexyl group. There is also disclosed method of making the ink comprising mixing all the above ingredients together which would intrinsically result in the copolymer coating the colorant (abstract and paragraphs 5-6, 10, and 12). Although there is no disclosure that a homopolymer of the alkyl (meth)acrylate would be soluble in the non-aqueous dispersion medium, given that JP 11286636 discloses monomer identical to those utilized in the present invention, i.e. wherein the alkyl group comprises 8 or more carbon atoms such as lauryl or stearyl, it is clear that the monomer would inherently form homopolymer that would be soluble in the non-aqueous dispersion medium as presently claimed. Similarly, although there is no disclosure that the copolymer is a binder, given that JP 11286636

disclose copolymer identical to that presently claimed, it is clear that the copolymer would inherently function as a binder.

It is noted that there is no disclosure that the ink is for inkjet printer as presently claimed. However, the recitation in the claims that the ink is suitable "for inkjet printer" is merely an intended use. Applicants attention is drawn to MPEP 2111.02 which states that intended use statements must be evaluated to determine whether the intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the intended use recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art and further that the prior art structure is capable of performing the intended use. Given that JP 11286636 discloses ink identical to that presently claimed, it is clear that the ink of JP 11286636 would be capable of performing the intended use presently claimed as required in the above cited portion of the MPEP.

In light of the above, it is clear that JP 11286636 anticipates the present claims.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (U.S. 6,143,806) or Qian et al. (U.S. 2002/0128349) either of which in view of Satake et al. (U.S. 5,814,685).

The disclosures with respect to Kato et al. and Qian et al. in paragraphs 8 and 9 are incorporated here by reference.

The difference between Kato et al. or Qian et al. and the present claimed invention is the requirement in the claims of the particle size of the coloring agent coated with resin.

Kato et al. and Qian et al. each disclose coloring agent coated with the presently claimed resin, however, there is no disclosure regarding the particle size of such compound.

Satake et al., which is drawn to ink jet inks, disclose the use of polymers having average particle size of 20-20 nm and maximum particle size less than 1000 nm in order to prevent clogging of the printer nozzles (col.3, lines 45-51).

In light of the motivation for using polymer with specific particle size disclosed by Satake et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to control the particle size of the coloring agent coated with resin disclosed by Kato et al. or Qian et al. to such average and maximum particle size in order to produce ink that will not clog the printer nozzles, and thereby arrive at the claimed invention.

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (U.S. 6,143,806) or Qian et al. (U.S. 2002/0128349) either of which in view of Horie et al. (U.S. 2003/0202080) and Idogawa et al. (U.S. 5,942,560).

The disclosures with respect to Kato et al. and Qian et al. in paragraphs 8 and 9 are incorporated here by reference.

The difference between Kato et al. or Qian et al. and the present claimed invention is the requirement in the claims of the particle size of the coloring agent coated with resin.

Horie et al., which is drawn to oil-based ink, disclose the use of colorant admixture, i.e. colorant coated with binder, having average particle size of 0.01- 1 μm (paragraphs 1, 18, and 21).

However, there is no disclosure in Horie et al. of the maximum particle size of the admixture.

Idogawa et al., which is drawn to ink jet ink, disclose the use of colored resin possessing maximum particle diameter of 1 μm or less in order to prevent clogging of the printer nozzles (col.8, lines 55-63).

In light of the motivation for using polymer with specific particle size disclosed by Horie et al. and Idogawa et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to control the particle size of the coloring agent coated with resin disclosed by Kato et al. or Qian et al. to such average and maximum particle size in order to produce ink that will not clog the printer nozzles, and thereby arrive at the claimed invention.

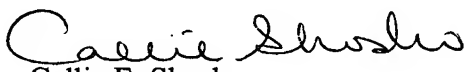
15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nichols et al. (U.S. 6,184,268) disclose ink jet ink comprising colorant, organic solvent, and polymer obtained from cyclohexyl methacrylate.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
7/29/05